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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,375	05/02/2001	Craig S. Rendahl	114292.1561	3929

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BAKER + HOSTETLER LLP
WASHINGTON SQUARE, SUITE 1100
1050 CONNECTICUT AVE. N.W.
WASHINGTON, DC 20036-5304

EXAMINER

LUC, THANH X

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 05/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/846,375

Applicant(s)

REND AHL ET AL.

Examiner

Thanh X. Luu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 O.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 10 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "24" has been used to designate both a tilt sensor and an RS232 interface (see Figure 1 and specification page 9). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 1, 8, 9, 14-19 and 25-27 are objected to because of the following informalities:

In claims 1, 16, 19 and 26, the last portion, "the motor vehicle" lacks proper antecedent basis.

In claims 8, 9, 17 and 18, "the side of a roadway" lacks proper antecedent basis. How is the roadway related to the vehicle path?

In claim 14, "the beam" lacks proper antecedent basis.

In claims 15, 25 and 27, "the specific power" lacks proper antecedent basis.

In claim 16, line 9, "said second reflector means" lacks proper antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-18 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 1 and 16, the specification does not describe an embodiment in which a second radiation source on a first side emits radiation towards a second reflector arranged on a second side, which reflects radiation towards the first side and wherein a second detector is arranged on the second side. That is, the embodiments in the specification describe devices where the source and detectors are located on the same side.

The other claims are rejected based on their dependency.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 16, it is unclear in its given context how a second detector on the second side receives reflected radiation from a second reflector, where the second reflector reflects radiation towards the first side.

Regarding claims 1, 16, 19 and 26, it is unclear in its given context how a speed or acceleration of a vehicle is measured by configuring detectors along a vehicle path.

That is, it is unclear that the vehicle intersects the radiation emitted and reflected causing an absence of radiation.

In claims 25 and 27, it is unclear in its given context what "determining the specific power of the vehicle due to the calculated acceleration based in part on the measured tilt" means.

In claims 15, 25 and 27, it is unclear how specific power (power per unit weight) can be calculated from acceleration and a tilt value.

The other claims are indefinite by virtue of their dependency on an indefinite claim.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States

8. Claims 1-4, 8, 9, 16, 19, 24 and 26, as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by McConnell et al. (U.S. Patent 5,910,929).

Regarding claims 1-4, 8, 9, 16, 19, 24 and 26, McConnell et al. disclose (see Figure 3 and column 4, lines 20-40) an apparatus and method for measuring a speed of a vehicle traveling on a vehicle path, comprising: a first radiation source or means (on beacon) that emits radiation arranged at a first side of the vehicle path; a first reflector (1) arranged on a second, opposite side of the vehicle path from the first radiation source that reflects radiation emitted from the first radiation source back towards the

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first side of the vehicle path; a first detector (on beacon; not shown, see column 4, lines 20-40) arranged at the first side of the vehicle path that receives the reflected radiation from the first reflector and detects a presence or absence of the reflected radiation; a second radiation source (on beacon) that emits radiation arranged at the first side of the vehicle path; a second reflector (2) arranged on the second, opposite side of the vehicle path from the second radiation source that reflects emitted radiation from the second radiation source back towards the first side of the vehicle path; a second detector (on beacon; not shown) arranged at the first side of the vehicle path that receives the reflected radiation from the second reflector and detects a presence or absence of the reflected radiation; and a controller (inherent) connected to the first and second detectors that calculates the speed of the vehicle in response the first and second detectors (see column 4, lines 20-40, "velocity estimate"). McConnell et al. also disclose (see Figure 4 and column 4, lines 20-40) "the system has two emitter/detector pairs (not shown)" and the pairs supported on a bar unit or permanent installation on a side of the path. McConnell et al. further disclose the reflectors are retroreflective units and affixed into a permanent installation.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. Claims 5-7, 10, 11, 17, 18 and 20, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over McConnell et al.

Regarding claims 5 and 20, McConnell et al. disclose (see Figure 4) an adjustment mechanism on the bar unit (pole supporting the emitter and detector) to adjust the direction of the sender/detector units. McConnell et al. do not specifically disclose a height adjustment. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide height adjustments in the apparatus of McConnell et al. in order to improve detection with further adjustments as desired.

Regarding claims 6, 7, 10, 11, 17 and 18, McConnell et al. do not specifically disclose a second bar unit or a plurality of permanent installations having a pair of sender/detector units spaced at a desired interval from the first bar unit. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a second bar unit in the apparatus of McConnell et al. in order to improve detection by measuring the speed of the vehicle at a different point along the vehicle path. Furthermore, the simple addition of another bar unit requires only routine skill in the art to configure. Also, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to connect the bar units in order to improve stability of the units. Similarly, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a plurality of pairs of first and second reflectors.

11. Claims 12-15, 21-23, 25 and 27, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over McConnell et al. in view of Johnson et al. (U.S. Patent 5,812,249).

Regarding claims 12, 13, 21 and 22, McConnell et al. disclose using an acoustic wave. McConnell et al. do not specifically disclose the radiation source being a laser beam source. Johnson et al. teach using modulated and unmodulated laser beams to measure speed in a similar manner. Further, since sound waves and laser beams are both forms of radiation, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a modulated laser beam source in the apparatus of McConnell et al. to improve the accuracy of detection.

Regarding claims 14 and 23, McConnell et al. and Johnson et al. do not specifically disclose the specific rate of modulation. However, the rate of modulation is a matter of design choice. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a rate of 20kHz-200kHz in the apparatus of McConnell et al. in view of Johnson et al. to reduce interference from ambient radiation and improve detection.

Regarding claims 15, 25 and 27, Johnson et al. further teach combining the speed sensor with a pollution sensor. McConnell et al. and Johnson et al. do not specifically disclose a tilt sensor and calculating a power. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide additional sensors and calculate additional values in the apparatus of McConnell et al.

in view of Johnson et al. to consolidate sensors and to provide a more complete detection of the vehicle.


Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached on (703) 308-4881. The fax phone number for the organization where the application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
May 16 2002


Que T. Le
Primary Examiner